



Grain

■ ELEVATOR OPERATION
AND MAINTENANCE

October
1936

Box Score, At Bat, 5; Home Runs, 5

For the fifth time GRAIN comes to bat in the Series of 1936. While the Yankees and the Giants are battling it out in historic New York to determine the relative merits of their respective leagues, GRAIN steps up to the platter prepared to knock out another home run for the glory of the Grain Industry League.

Backing GRAIN up are those terrific batsmen Wheat and Corn. Soybean, the finest shortstop in the world, is playing a wonderful game. Oats on first, Barley on second and Rye on the third sack contribute their best. The whole team displays a fine spirit and the Grain Industry League is odds on favorite to sweep the series and leave their opponent, Old Man Depression, sneaking out a side gate.

Batter up! Here's the wind-up . . . there's the pitch! WOWIE, another homerun for GRAIN!

When VACATION Was Through

by NORTON J. BOND

DO you ever look backward, and think as a kid,
Of the days when vacation was through?
And can you recall what emotions you hid
When the bell in the school summoned you?
Did you whoop with delight or groan with despair?
Was readin' and writin' your joy?
We'll venture you'll say, if you're honest and square,
That you loathed 'em like any small boy.
'Twas hard to go back to the long, weary grind.
That, to us, was the symbol of school.
How much nicer 'twould be if we only could find
Ourselves back in the old swimming pool.
But, 'twas part of life's training, 'twas part of the plan
To teach us that all is not joy.
So we buckled right down to our tasks like a man
Tho 'twas hard for the average boy.
And then we grew older; we thought as a man;

We learned of life's knocks and hard blows.
We found that it pays to give all that you can
And to always keep right on your toes.
Oh sure, we've had moments that filled us with doubt,
And we've wondered sometimes if it paid
To keep right on ploddin' and never to pout
Tho we're heart-sick and sorely dismayed.
Then, perhaps, we look backward and think of that
kid—

That shaver who long since was you—
And the tasks, tho distasteful, he cheerfully did
In those days when vacation was through.
So let's keep in mind, when we're filled with dismay,
The lad to whom life was a joy,
And tackle our job in the same cheerful way
That we did as a very small boy.

Editorial

by DEAN M. CLARK

PROFIT FROM WASTE

THE myth of the Phoenix is a fable founded on fact. No, the Phoenix bird has never been recognized by ornithologists nor has anyone ever actually credited it with the strange physical attributes necessary to arise from its own ashes following its cremation. The fact upon which the fable is based is simply that from the waste ashes of an endeavor can come another endeavor equally brilliant.

The ashes of an industry thrown carelessly aside after the main product has been disposed of offers an indisputable challenge to the progressive mind. The meat packing industry picked up the gage years ago, in the days when the slaughtered animal was reduced to the minimum of steaks and roasts — and all else was thrown aside as “ashes.” They developed a use for the heretofore abandoned waste until the famous saying appeared and lived: “They use everything but the hog’s squeal!”

The Coal and the Oil industries started off with three products—coal, kerosene and gasoline. The tremendous amount of waste accumulated in producing that trilogy soon set them thinking and they, like the packers, arose from their own ashes and appeared triumphant in the plumage of a new Phoenix. The will to do and the energy to accomplish is graphically demonstrated in the fact that the latest of the thousand and one by-products developed by these industries is the newest chocolate bar on the market — **made from coal!**

New life from ashes! But what of the grain industry? True, the by-products of grain are manifold—**but are they in proportion to the waste accrued?** Mayhap the soybean has acquired so much publicity because from it there has been developed so many by-products. It has risen from the ashes a golden bird of profit. But when will wheat and corn and all the other grains acquire the golden plumage of profit from waste?

Grain

Published Monthly

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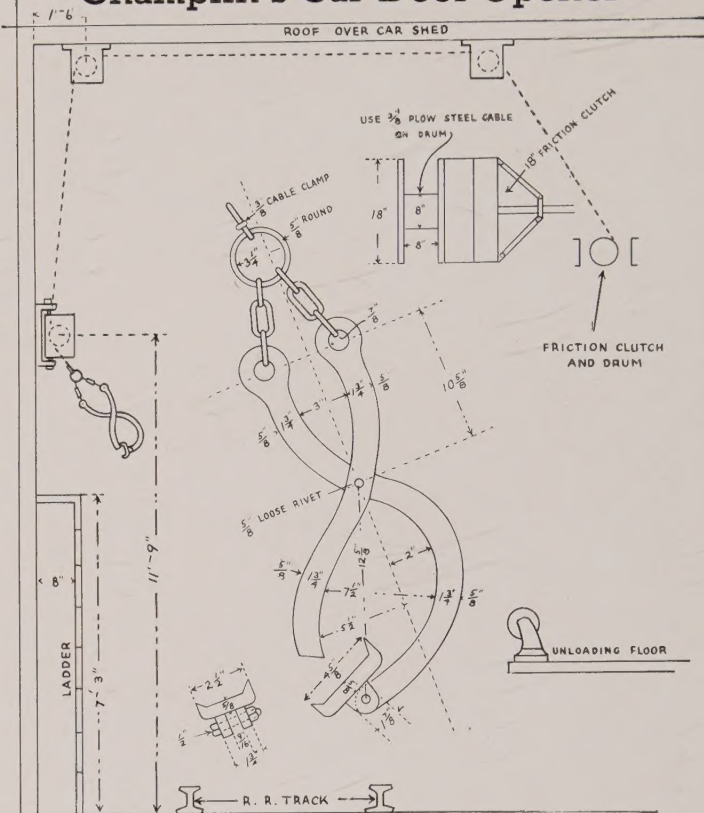
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Champlin's Car Door Opener



Here is presented, with the compliments of the well-known Vic Champlin, General Superintendent of Archer-Daniels-Midland Co., Minneapolis, the details of his car-door opener that has favorably impressed so many visitors.

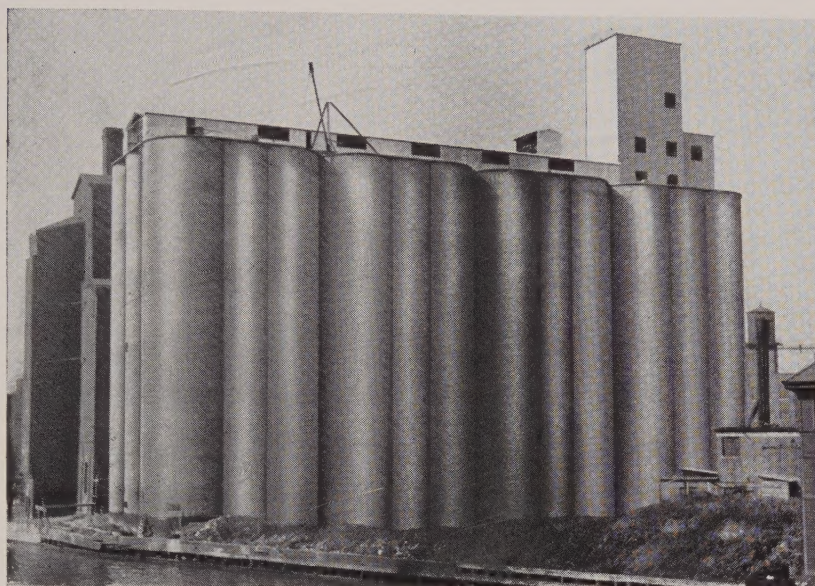
EVERYBODY'S DOING IT!



[Apologies to Chicago Daily News]

Soybeans . . . THE BUILDER-UPPER

The rise in farming and industrial importance of soy beans is emphasized by the building of this new 1,000,000 - bushel elevator in Chicago by Spencer Kellogg & Sons, Inc., for soy beans exclusively. Modern pro-



cessing machinery is now operating in the Spencer Kellogg plant adjoining the elevator, concurrently with the establishment of a soy bean "futures" market by the Chicago Board of Trade.

SPINACH splashed across the country on a wave of publicity and entered a million new homes, enthusiastically welcomed because of its iron content, so useful in building healthy bodies. Yet the soybean, in the food list of availability of iron, rates 80 compared to a 20 count for spinach.

Milk, known for years as the "complete food" because of the life sustaining amino acids in the casein, meets its match in the soybean. The Soybean protein contains all the essential amino acids and marches shoulder to sturdy shoulder with the only other "complete food."

Meat and eggs range themselves next to milk in protein nutritive value and have long been secure in their rating as muscle building foods. But now they must acknowledge the presence of the soybean, for this newcomer not only equals their protein nutritive value, he leaves them far behind in protein content—twice that of meat, two and one-half times that of eggs and ten times that of milk!

No wonder Furstenberg, the famed scientist, said of the builder-upper: "The soybean is the culture plant of the future. It will revolutionize the nutrition of humanity." * * * *

What is the soybean doing on the farms? Over the period of the last few years soybean acreage has jumped from a half million acres to 5,211,000 acres spread over twenty-seven states. Fifty thousand farmers planting soybeans in 1930 have grown to an

army of 600,000. A forty million bushel crop in 1935 worth on the hoof \$34,000,000! Increasing prosperity at the core of the country and reflecting itself up through the whole economic structure!

In the industrial field, the soybean is forging ahead in an irresistible manner. The magicians of the laboratories are daily announcing new uses for the Oriental Immigrant and the importance of already tried practices is being increasingly realized. The use of soybean protein as a substitute for the largely imported milk casein is proving a boon to the paper industry. The newest development from its use is washable wallpaper. The paint industry acclaims the soybean protein more stable and weather resisting than other types of protein. The plastic industry has been greatly activated by the new addition. In soaps and linoleum the ingredients of the soybean have come to be of predominant importance. The list is endless but beyond and above this great impetus to business is the fact that this use of the soybean represents the first major step toward employing the soil for the raw materials of industry!

Thirty-five soybean crushing mills working steadily; twenty companies milling soybean flour and more than fifty factories manufacturing various industrial products from soybeans. More building—more pay-rolls—more business—improved products . . . a great build-up for the return of good times! Soybeans, The Builder-upper. . .

Grain Varieties

by H. R. SUMNER, Executive Director,
Northwest Crop Improvement Association,
MINNEAPOLIS, MINNESOTA,
Before the S.O.G.E.S. Convention

LET us take a minute or two and describe the hard, red Spring Wheat situation in the Northwest. It is rather interesting, and perhaps I can risk a guess or so, giving you an insight as to the trend or type of hard, red Spring Wheat variety production that prevails not only now, but ten years from now or perhaps longer, in the future.

At the present time our hard, red Spring Wheat varieties can be outlined as being in the Western Minnesota area, also Southern Minnesota, and taking in the extreme Eastern part of North Dakota and South Dakota (East of Fargo, Crookston, Grand Forks, Devil's Lake, Jamestown, Brookings, etc.). The predominating variety, not of today, but within two years from now or even one season, will be a new *Thatcher*. Three hundred thousand bushels of this *Thatcher* seed is planted through this area. Here your colleges, county agents, and our association, are recommending and approving the planting of this variety of *Thatcher* wheat to farmers because it is so very resistant to black stem rust—and the rust of last year is still uppermost in everybody's mind. There has been a decided increase in the acreage in *Thatcher* wheat in this territory, however in the sections further West we are recommending the *Ceres*.

Marquis is still predominating in the sections to the West and works over into the border line country, and the *Ceres* over into the Northern area. Thus there are three outstanding hard, red Spring Wheats, namely *Marquis*, *Ceres*, and *Thatcher*—the *Thatcher* being particularly suited to the Red River Valley section.

We have one other variety, the *Reward* Wheat, which is concentrated in North-central South Dakota and South-central North Dakota. We also find it scattered in Northern North Dakota and Northern Montana. Those four varieties at the present time, or certainly within a year or so, will comprise a large percentage of the hard Red Spring Wheat raised here in the Northwest, provided we can keep out some of this *Garnet* Wheat which spotted a few places.

You are interested, perhaps, in getting that general variety picture so I will make one or two observations: In the first place, this *Thatcher* Wheat is relatively new. From a broad standpoint the farmer is interested in yield per acre, resistance to disease, etc., therefore *Thatcher* Wheat is here to stay for a while. We do not know definitely from a commercial standpoint what it will do so far as milling is concerned, however it has been tested extensively by State and Federal investigators, and our Association for the past five seasons, using sixty bushel lots, growing *Thatcher* side by side with others. On the basis of our own work, although we realize *Thatcher* Wheat has not come into the terminal market in carload quantities yet, we think it will be rated as a milling wheat.

Unless something goes bad that variety will spread somewhat into the Dakotas in the next several years. How far West it will go we do not know. However, we feel that it will not be very successful in the Western plains section of the Dakotas inasmuch as *Thatcher* does not have the ability to stand the hot blasting winds that come within a week or so before the time of harvest.

Marquis a Variety of the Past

The *Ceres* variety is a high-yielding wheat and can stand a lot of hot weather, blasting winds, and drouth. I would not be surprised to see *Ceres* moving further and further Westward. I would even go so far as to say that this *Marquis* variety (a wonderful variety and the one which is a standard of milling value comparison) might be a thing of the past; it will be a grand old variety, one we all will cherish, but some variety like the *Ceres* is going to replace it. There is a lot of *Ceres* being ground in Minneapolis at the present time.

Ceres Wheat is going to out-yield the *Marquis*

variety, so from a farmer's standpoint you will see how he is going to react and feel toward it. Please do not get the impression I think *Ceres* Wheat is going to take all the *Marquis* country and stay with us for a number of years. I have an idea when this has been accomplished, the *Ceres* Wheat is going to be replaced with some other variety even better.

There are many crosses that are coming along. We are watching them carefully in some of the experimental lots, and it would not surprise me if within a period of fifty years, some variety would replace the *Ceres*. When that happens the new variety will be better than the *Ceres*, and make inroads on the *Marquis*.

The *Reward* variety is a good variety from a commercial milling standpoint, but I expect the *Reward* acreage will never be great. It appears to be best adapted to those farms who have a large acreage over which to distribute their harvesting labor over a period. *Reward* is at least eight or ten days earlier in maturity than the *Ceres* and *Marquis* and so is restricted to those farms who want a small patch, a quarter of wheat, maturing early.

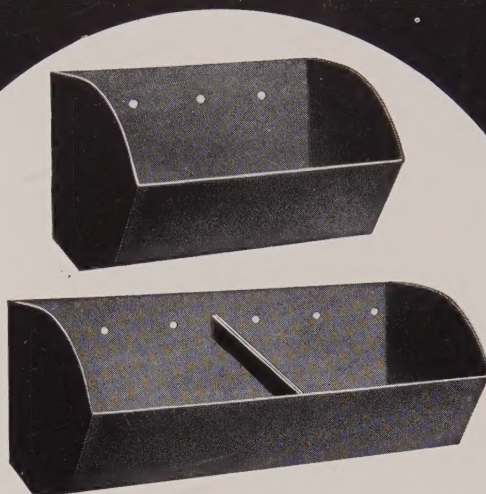
No Reverting To Type

Now here is another thing I wanted to inject. It is kind of funny to go through a course of elementary botany, but if you do not mind, let us take a few minutes and consider it. In recent years I have been impressed so many times in conversation with various men in the grain and milling industry by their saying that some of these varieties are going to revert, that is, go back to whatever they came from. That idea I encounter every once in a while.

Then again, I overheard the remark made by a local buyer that the reason the farmers have so much white wheat mixed in with *Amber Durham* was caused by the *Durham* changing over. So let's take a second and consider the botany of the wheat flower.

Now if I were to draw a wheat flower you would laugh, but here is a wheat flower in bloom. On the inside of the flower, down at the bottom is the ovum, the female part of the wheat flower. Standing up from this ovary there is a flowering-like double-forked branched stigma. Growing up from this base there are three long stamens, that carry the pollen sacks. The stamens and pollen sacks constitute the male organs. Now when this grain in its flower is fertilized, all that happens is that this pollen sack is tripped, and the pollen grains released to fall down where it will germinate and grow and send a pollen tube right down the stigma into the ovary

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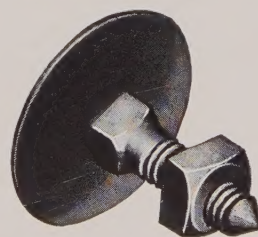
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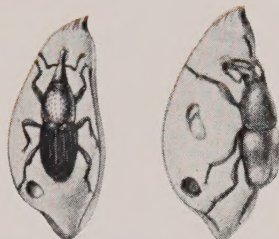
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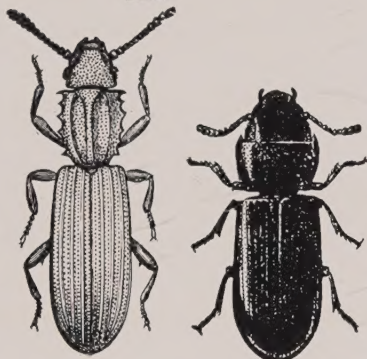
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Adult granary weevil feeding on kernel

Adult rice weevil feeding on kernel



Adult sawtooth grain beetle

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and there fertilize the female egg cell. Ordinarily, this fertilization takes place when the flower body is enclosed with the blooms or chaff. Then, later on, these keep growing, the flower bloom opens up and hangs over. When in talking with a farmer and he says his wheat is in flower, he is noticing the pollen sacks hanging outside; but ordinarily under normal circumstances, the fertilization has taken place before that so the wheat flower or plant is what we call a "self fertilizing" plant and conditions would have to be abnormal (weather conditions, wind conditions, etc.) to have cross-fertilization from one plant to another. Being self-fertilizing, a field crossing itself is a rare occurrence, although sometimes, with everything gearing right, they have reported cases where the crossings may be as high as 1% in field conditions.

Now there is still another point—how do these plant breeders make these crossings? Talk about the double-cross! The *Marquis* Wheat, to take an example, if it were heading right now we could cross again. In fact I think inside of fifteen or twenty minutes we could make you all good plant breeders.

How To Emasculate

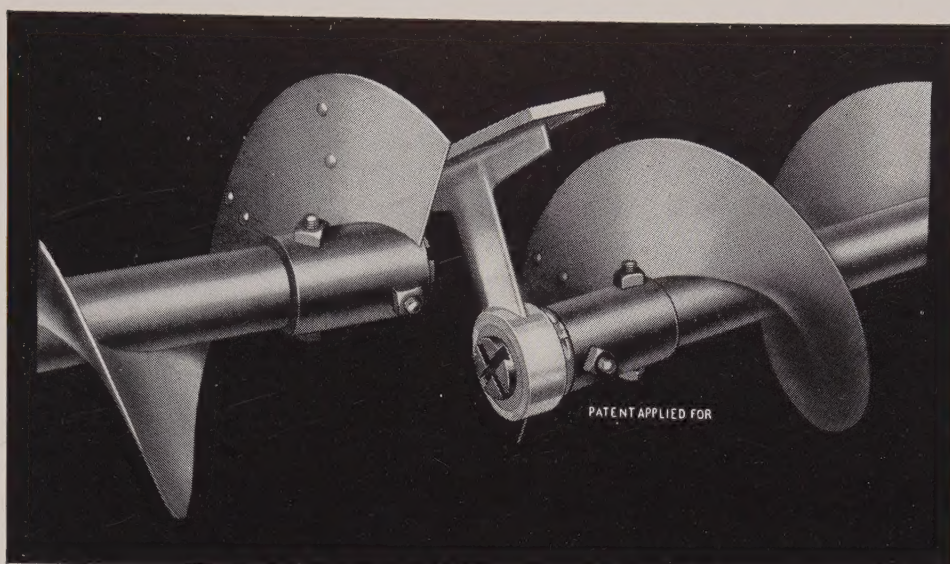
All you have to do is to approach one plant that you determine is going to serve as a female plant. Keep an eye on that particular plant, and when it seems to be in the right stage, before the pollen sacks have come outside of the chaff in bloom, go to the head and pull off all the spikes. Save about six or eight of the flowers that will flower at about the same time, and keep an eye on them. When at the right stage, carefully go up to the flower with a pair of tweezers, like a grain tweezer, part a flower bloom, and with a quick motion of your hand you can carefully pull out or separate that ring of three stamens, taking out the pollen sacks. In the parlance of plant breeders this is emasculating.

Then the flower, if the stigma is not in a receptive condition, is enclosed in a paper sack, the plant breeders knowing the particular stage of growth he wants, may wait an hour or two, or five or six hours. Later if this stigma is grown up and flowers, and two branches are opened up, with fine hairs coming out showing moisture, it is in a receptive condition. You run over here to the plant, find the pollen grains that are ripe, pick them up, come back here and spread them over the stigma, then the entire head is closed up again. This is all there is to cross-breeding wheat.

The ordinary plant breeders' success will range from zero to as high as ninety per cent, but in ordinary crossing work between common varieties a good one will come through about 50 or 60%.

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Carrying the story on a little further, I think we all understand now that in self-fertilized flowers like wheat, it is very difficult to have any natural field crossing between a variety of *Marquis* and *Ceres* or *Indian Durham* and *White Wheat*.

That's How Thatcher Was Born

The real trick is when they produce some variety like *Thatcher* Wheat. They wanted to breed a variety quite resistant to black stem rust, a variety that would yield well, have good milling qualities, and so on. They started out by taking a variety of *Durham* Wheat, *Umillo*, imported years and years ago, back in 1904. I do not know who introduced this variety, but it was noted that it was quite resistant to black stem rust, and for its red color; they crossed this variety with *Marquis*. Of course your *Marquis* is a variety . . . it was produced by a cross between *Calcutta* and *Canred* in 1892, in Canada. *Umillo* and *Marquis* were crossed in 1918.

The first generation shows that approximately 25% of the plants are going to resemble the male parent, and 25% will resemble the female, whereas 50% will be more or less crossed, or hybrid. Weeding out the plants that do not breed true, in 1921,

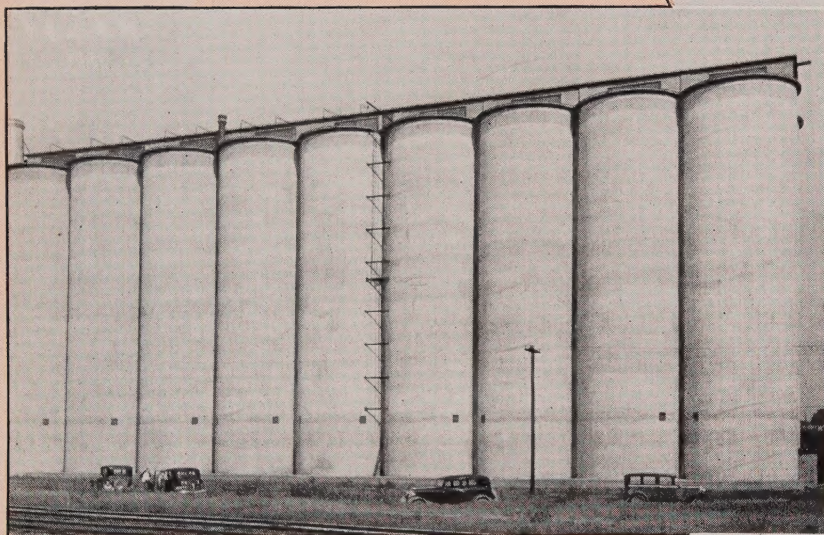
they had a variety or strain named *Marquillo*, which did not prove to be a satisfactory milling variety, and another that simply had a number at that time, 2-15-51.

Then about the same time, they did more experimenting and took the *Marquis* variety and *Canred* Wheat and crossed these two. For three or four generations they tried to purify the particular strain of the quality of *Marquis* and the stem rust resistance of the *Canred*, and obtained No. 3001, which they crossed to 2-15-51 and produced another hybrid.

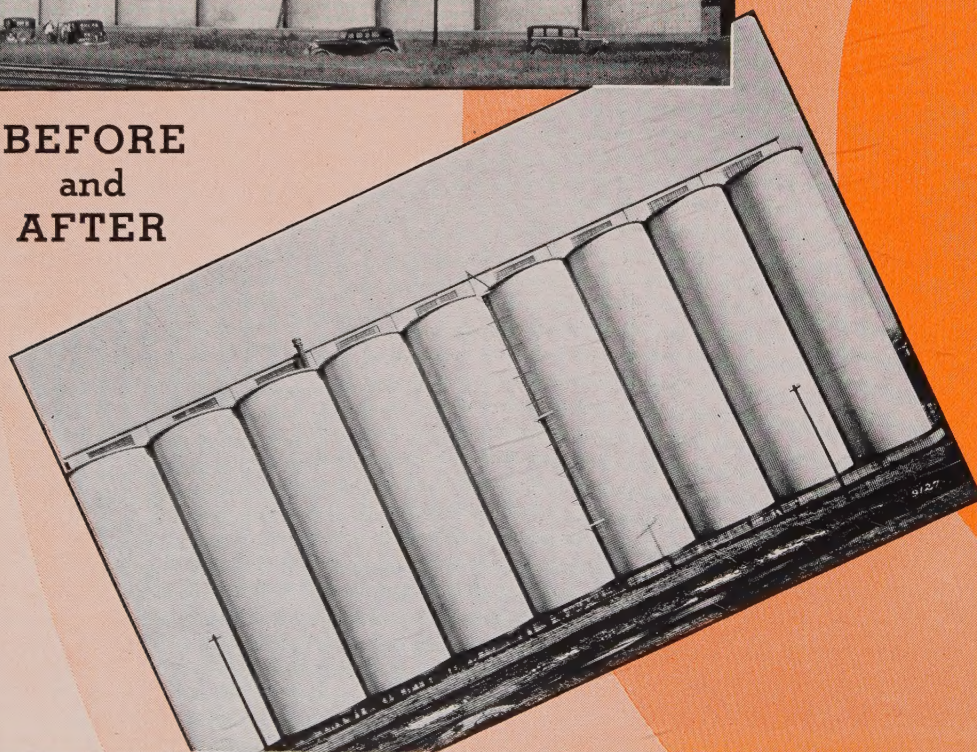
After five or six years, they gave it *Minnesota Number 2303*, and after two more years of testing, gave it the name *Thatcher* whereupon it was released a year ago to the farmers.

A point I would like to make is that the modern day plant breeder, when he crosses two varieties, considers it his main job to select certain strains which have the characteristics he is seeking and which will breed true. After the cross is made, through years of selection, they finally fix on a certain line or type of variety that goes on breeding true. That is a brief outline of the breeding of the new *Thatcher* Wheat.

BEFORE



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AFTER



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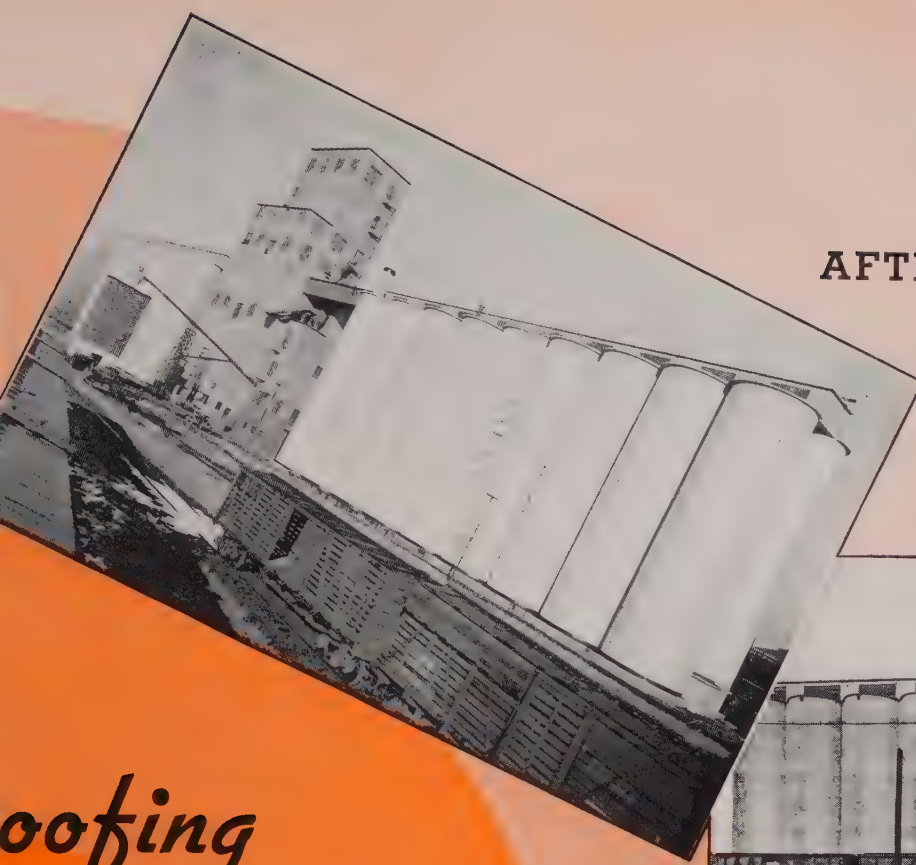
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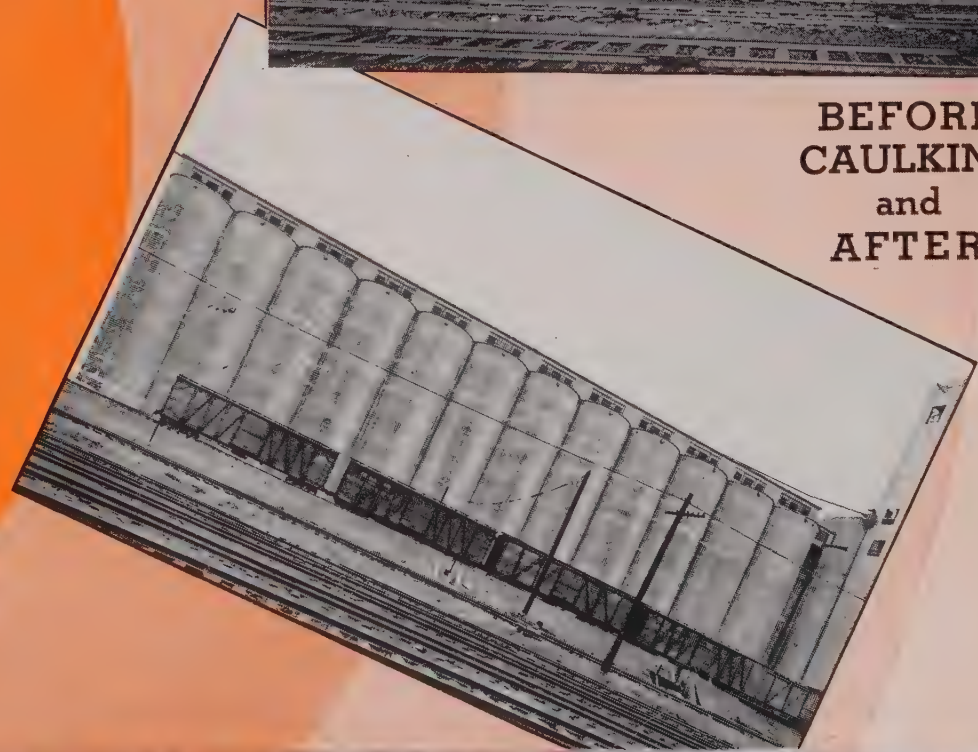
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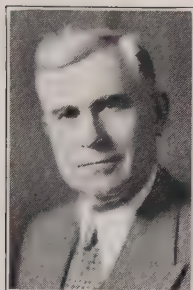
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THE Superintendents



VICTOR CHAMPLIN

The usual thing for a grain man migrating to Texas is to associate himself with the elevator business there, but not so with Victor I. Champlin. He, as usual, strode aside from the beaten path and instead of seeking elevators when he moved to Texas in 1911, sold real estate. It is just this aptitude for something new that has made "Vic" the positive figure in the grain elevator industry he is today.

Beginning his career in the grain business in 1898, the man who is now general superintendent of Archer-Daniels-Midland Co., first vice president of the S.O.G.E.S. and president of their Minneapolis Chapter, even at that early date exhibited the qualities which eventually brought him to the top. He started off as house weighman in the old St. Paul Railway house in Minneapolis. A year later he went to the Great Western Grain Co. and in the course of twelve years, rose through the jobs until he was appointed superintendent. Then came the exodus to Texas and the fling in real estate; but the call of the North came in no uncertain terms when "Vic" was deluged with propositions from his former employers in Minneapolis so in 1913 he returned to the Twin City to take charge of the terminal elevators of the Great Western. A year passed and he went over to the International Grain Company in charge of their Great Northern Elevator. In 1920 the firm sold out to the Delmar Company, a subsidiary of the old Armour Grain Company, and Superintendent Champlin's duties were increased with the additional elevators for, of course, Delmar Company "grabbed" him. Six years later the Archer-Daniels-Midland Company took over the Delmar holdings and appointed "Vic" general superintendent—and ten years on this job finds him going stronger than ever.

At the last S.O.G.E.S. convention "Vic" brought out an invention of his that is promising to revolutionize unloading cars in the grain business. Judging

Superintendent Harold Wilber of the A. E. Staley Manufacturing Company rightfully holds a high place in the esteem of his fellow superintendents because of his record at Decatur, Illinois, and because of his willingness to give his fellow superintendents the benefits of his own intensive research. The basic soundness of his findings are doubly appreciated because of the fact that he combines academic thoroughness with practical experience.



HAROLD WILBER

Mr. Wilber is a graduate of University of Illinois spent several years teaching, flew a pursuit plane and taught aerial gunnery during the war. After leaving the service in 1919, he enrolled in the country elevator game and brought the local business to such a high standard that shortly he was drafted by the firm in Decatur to expand his theories. He not only expanded — he expounded — with the result that readers of GRAIN and listeners at S. O. G. E. S. Conventions have saved themselves a lot of grief by following the lessons of the "flying professor."

There are three hobbies in the life of the Superintendent of Staley's grain elevator, namely: the storage of corn over *long* periods, the most economical method of drying grain and the storage, handling and blending of soybeans for milling purposes. In all three, the combination of the theoretical mind and practical application have worked with utmost success.

The Decatur superintendent has attracted a host of friends in the grain business as a whole through his unfailing good will and readiness to help.

by the tremendous response of the practical grain men who have studied his invention, the Champlin Grain Door Opener is a winner. And as an insight into the nature of Superintendent Champlin it is only fitting to remark that he has generously given this invention to the grain trade as a whole and is only too glad to answer correspondence regarding it.

HOW STATIC CAN TOUCH OFF THAT FATEFUL SPARK

WAYNE DAVIES

THE peeling or separation of any laminated material will produce static electricity. The low ampere count of this type of electricity is offset by its comparative high rate of voltage giving it heat enough to ignite gases and dust under proper conditions. An elevator is a grand place to create these "proper conditions" and, as has happened, men have lost their lives and firms have lost millions of dollars because a mysterious agent touched off "proper conditions." This mysterious agent has been revealed in some cases to be static electricity.

This pest can also be caused by the internal friction of old leather belting which is approaching the dry rot stage. Fortunately, an application of animal oil will nullify this condition to a great extent.

A falling ball striking a plate can generate static and cause a spark which is separate from any metallic spark that might occur.

Yes, the little old demon of static lurks around a lot of corners but can be tracked down. A testing equipment of proven worth is available to all superintendents who desire it. After this device has disclosed the breeding grounds of the static, suitable measures can be taken to ground the machinery involved. And another stride will be taken forward in the war on explosions.



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ONLY AN INFANT

Expects to Receive . . .

. . . without Giving

IT is natural for a baby, or very small child, to expect to receive everything from others without giving anything itself. Ask any psychologist if you don't believe this.

As the child grows and mixes with more and more people, it must learn to give, in order that it may receive. Finally the degree of a person's willingness to give intelligently becomes almost a measure of his intelligence.

We grain men seem to believe that giving is wasting; that to attend to our own knitting and run our businesses as we see fit, is the only sure way of staying in business and promoting our own welfare and interests.

Other industry men realize that exchanging ideas, working together cooperatively, digging for vital information and giving much, while seeming to receive little, pays far better than being a business hermit plodding along alone.

Keen attention to business is necessary, and for a time the hermit seems to be making more progress. But where is the business hermit who has succeeded over a lifetime of secluded selfishness? Look around you. There are none.

Most of the terminal elevator owners and operators who have assumed unselfish leadership in their communities are stronger and better men for it, have learned more about the industry than they ever knew before, and are in position to forge ahead as conditions improve. If others would help, instead of leaving the work to the leaders, they too would benefit,

★

*Because it is still a simple truth that
"It is better to give than to receive."*

★

**SOCIETY OF GRAIN ELEVATOR SUPERINTENDENTS
of North America**

Makers of Progress

332 So. La Salle Street, Chicago, Illinois



Whole Kernels



GOING TO UPSET BARLEY HANDLING

At the present time I am working on a proposition which may turn the handling of barley upside down and expect to have same perfected soon. Also have patented a sieve for sizing barley which is also good on flax for a fast job of high accuracy. Same capacity grader now costs \$10,000 up.—W. A. Clark, Minneapolis.

GOOD REPORTS

I can assure you that we are glad to learn your convention was a success, and I would thank you if you would be kind enough to send me copies of the different papers presented.—C. L. Langille, Manager, Eastern Terminal Elevator Company, Limited, Winnipeg.

NEGLECTED BELTS WASTE 40% MORE POWER

Neglected belting takes up to 40% more power than belts properly maintained, states a report from Minneapolis. Keeping them clean and well dressed so the belts will run at normal tension and the machinery at maximum speed was concluded mandatory to avoid such a huge loss of power. Overloading and loading off-center are two particular points to correct.

"INDIAN GIVER" CORN

Indian Corn cannot survive without the aid of man, says **Popular Science Monthly**, as its kernels have no natural way of distributing themselves. Unknown in Europe before the discovery of North America, it was found under cultivation here by the Indians. No wild corn, or any related plant, is found anywhere in the World, and scientists cannot explain where it came from. Canadian Milling & Feed Journal says the nearest thing to it that botanists have ever been able to discover is a wild and cultivated tropical American grass which bears its seeds more or less like millet or kaffir corn instead of on ears. . . . Maybe that's where the expression of "Indian-giver" started.

COMING FROM CALGARY IN '37

Am sorry that owing to sickness in my family I was unable to attend the convention, much as I would like to, and hope in the future I may be in a position to be present.—W. J. McMullen, Superintendent, Canadian Government Elevator, Calgary, Alberta.

TOO HOT FOR US

A quarter of a billion dollars is quite a few blue chips in this poker game we call life, but its the smallest pot we've lost in twenty-one years—speaking in terms of the U. S. '35 fire loss. However, this happily represents an 8.3% decrease under the '34 millstone noosed around the neck of industry. Again, however, our industry disgracefully tops the loss-list with a \$400,000 feed mill fire in Stockton, California. And more disgraceful,—every computed month in '36 has out-burned the corresponding month of '35, according to the National Fire Protection Association—Sort of too hot for all of us.

SPARKS

More than one dust explosion probably has been caused by a steel nail in a workman's shoe striking sparks. "No heel is going to blow up my house," writes one of our correspondents.

BEG YOUR PARDON

In the September Number of "GRAIN" we unintentionally overlooked giving Dr. C. H. Bailey's title and connection—and its one to be proud of.

Dr. Bailey is Professor of Agricultural Biochemistry at the University of Minnesota, St. Paul, and, incidentally, is shortly to embark for Leipzig, Germany, to represent the United States at, and speak before, the International Congress to convene there early next month.

HEAPS PRAISES

In my opinion the Society has chosen the best man they could possibly select for the job. He has all the background that goes with a good officer and "knows his stuff." He was a good elevator superintendent when some of us fellows were going to school. He has been a very successful operator, and has handled all kinds of grain for a great many years. Just wanted to drop this line to congratulate the Society upon the selection of a man for President whom I think is one of the most eminent men in the elevator business, Henry S. Cox.—Louis T. Sayre, Chicago.

DREYFUS' MINNEAPOLIS WORKHOUSE UP

Said to be the last word in everything that goes with an up-to-the-minute grain terminal, the new reinforced concrete workhouse of the terminal elevator owned and operated by Louis Dreyfus & Company's Minneapolis office is now completed and busily humming a cheerful tune. This is the plant that installed the Redler conveyor to keep the tanks busy while the burned workhouse was being replaced by the John S. Metcalf Co. of Chicago. Members of the active Minneapolis chapter hope to be privileged to inspect this new edifice for grain.

AGAINST 50-FOOT BOX CARS

The 50-foot box car causes delays in unloading, prevents the proper setting of cars at legs, and is very costly, in the unanimous opinion of the recently assembled Minneapolis Chapter.

ANOTHER CORNER HEARD FROM

Am exceedingly sorry that I could not be present at the Superintendents' convention, but upon returning from my vacation others wanted to get away. Also the new crop begins to move early so hope that I may be able to attend the next convention.—Samuel Phillips, Norris Grain Company, Baltimore, Maryland.

CELEBRATION TO BE OUTSTANDING

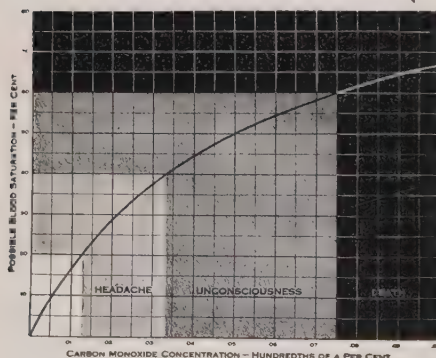
Opening their "fortieth birthday party" with a Barley Grading School on October 11. The Grain & Feed Dealers National Association's convention at Hotel Schroeder, Milwaukee, Wis., presents a glowing array of high-lights on their three-day program, states a last-minute report from Secretary Ray Bowden.

ARTICLE 32 COMMITTEE

Insurance companies are requiring that equipment, in some cases not well broken in, be discarded in making terminal elevators in some cities meet requirements. Chicago is additionally penalized by having its terminals placed in Class 1, Group F, instead of the usual Class 2, Group G bracket. The "Article 32 Committee" of the Electrical Division of the National Fire Protection Association is the place to attack this problem. The Society belongs to the N.F.P.A. and only lacks a volunteer to go to work on this matter for the entire industry.

AT LAST!

At last a carbon-monoxide detector has been perfected which is said to faithfully reveal the presence of dangerous amounts of this poisonous, odorless gas all too common in bins of stored grain. So reliable do telephone companies consider it that they employ these Ampoules before workmen descend into street manholes—



where the same death-dealing gas is as treacherous a problem as with terminal grain elevator operators. . . . And dumbfounding is the minute proportions of this gas required to instantly snuff a life—being less than one-tenth of one percent, according to this chart drawn by Mine Safety Appliance Company. Incidentally, for those particularly interested in the causes of dust explosions, the explosive limits of carbon monoxide in air is given as 12½% to 74%, and its vapor density 0.97.

SWELL RACKET

Incompetent and fraudulent recharging service of fire extinguishers by persons representing themselves as specializing in this work has been reported from various parts of the country within the past several months, advises National Fire Protection Association. Some reports also indicate malicious practices reaching serious proportions in connection with sales and repair services. We have on file a full report available for perusal.

CEREAL OATS ON CHIEF INSPECTORS' MENU

At their thirty-fifth annual convention in Milwaukee, Wis., Sunday, October 11, the Chief Grain Inspectors' National Association will discuss Cereal Oats, Revised Barley Standards, Mechanical Devices Used in Grain, Menace of the Itinerant Trucker, Grain Inspection Legislation, and Sectional Grading Problems, according to Secretary Tom Armstrong of Kansas City, Mo.

JACK MacINNIS DIES SUDDENLY



John Arthur MacInnis, 53, manager of the Occident Terminal Division of the Russell-Miller Milling Co., Duluth, died suddenly in his home, on the night of September 21. He had been at his office the day of his death, apparently in the best of health.

Born and schooled in Duluth, "Jack", as he was so popularly known, took his first job attending hatch on coal boats, later herded cows afoot and on a pony, and "graduated," to quote his own words, to milking and driving the wagon.

His first contact with the grain business was when he started out as office boy at the Globe Elevator Company. Slack business a year later, however, found him with a wholesale hardware house, but the call of the waterfront was too gripping so back he went to the coal docks and earned rapid promotion to clerk and weigher.

Nineteen three found him in the "Peavey" and "Globe" Elevators, one crew operating both houses in quiet times. But the former burned down five years later and his parents objected so strenuously to his coming home reeking with the smell

of smoke that he had to leave the "Peavey" temporarily.

The new "Peavey" house had no sooner been completed than Jack was back, this time as spouter and assistant weigher, shoveler, cleaning machine operator, assistant oiler, fireman and other miscellaneous posts.

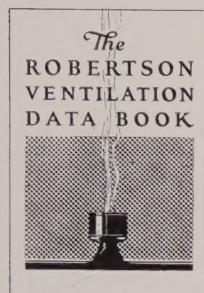
His reputation must have spread, for when the Capitol Elevator No. 4 was completed he went over there as weigher, only to become foreman in 1916 when the Capitol No. 6 was built.

In 1923 he took charge of the Occident Terminal Elevator then under construction, became a member of the Duluth Board of Trade seven years ago, assistant manager and three years ago, manager.

Charter member and loyal booster of the Elevator Superintendents' Society, an ever-present convention attendant and gracious host when the convention came to his home town last June, Jack had written about the latter gathering only a few days before his untimely demise: "I feel that this convention was an outstanding success and have heard so from many others. It was a pleasure to again see all the boys and watch the efficient performance."

A thorough gentleman, always putting himself out of the way for the comfort and welfare of others, his death comes as a severe shock and an irreplaceable loss to all of us.

Hints and Helps for SUPERINTENDENTS



The "Ventilation Data Book" is crammed full of engineering wrinkles, contains complete data and a scientifically accurate series of tables covering the exhaust capacities of ventilators, shows how to provide balanced ventilation for grain storage bins and how to vent a dust explosion in the elevators legs. (Check enclosed post card and it will be mailed to you.)

The "Fumigation Handbook" ought to prove a good hedge against being unable to identify unknown visitors pretty certain to gain entrance into your temples of business this time of year. If you have a weak heart or can't stand the sight of these enlarged ugly critters, then don't mark an "X" for this.



A virtual "department store" for moisture testing and grading devices is catalogued in the new S. T. R. B. brochure now available for the asking. Not only is everything from the proverbial "soup to nuts" described and illustrated, but a lot of other "wants", too. Check the card and its yours.

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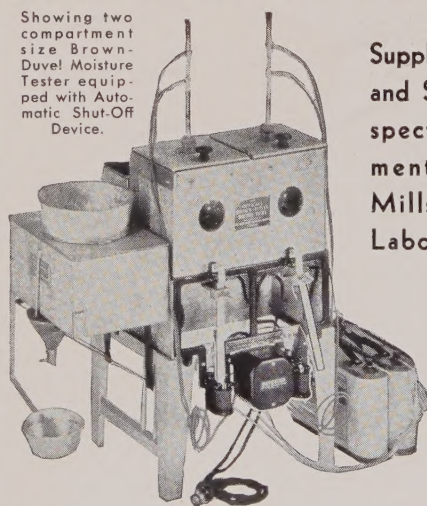
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CHICAGO, ILLINOIS

DEAR EDITOR

I am going to give you some of my reactions to the discussions that took place at our recent convention as I have read them. I was greatly interested in Mr. Wilber's talk on "Grain Drying" and I've read everything said by anyone on this subject. Up to now there are a few thoughts that I have in mind on this subject that I have never seen discussed. One thing is whether any of the superintendents having drying experience ever found out what the actual temperature of the air is when it strikes the grain? We know what the temperature is just before it goes to the chambers that contain the grain but those chambers are in some cases 30 or 40 feet long and of varying heights, so I wondered if anyone knows what the loss in temperature is, if any, from the time the hot air goes into these chambers until it reaches the grain?

Then there is another thing on this same subject that I have been curious about ever since I knew anything about drying grain and I operated the first Hess Drier ever built in Chicago, back in the '90s: I wonder if any of the Superintendents ever tried reducing the temperature and speeding up the fans? I know you can dry grain at a temperature of 110 degrees because I have done it—but you could not do it at that figure and make any money for the firm because it is too slow. But I've always thought that if you could speed up your fans and get a greater volume of air with greater force behind it you could dry grain at a temperature of 110 degrees and do it on a commercial basis. . . . I know this would cost a little more money but figure the returns, the saving of fuel, the better keeping quality of the grain, far less breakage from the grain dried at this temperature, and a premium on the selling—as I feel sure that grain dried at this temperature would be classed as natural dried grain instead of kiln dried.

I read Roy Heinrichson's article in regard to legs and agree with him fully. He could have also said with truth that by lagging both the head and boot pulleys you would save a great deal of power as the lagging would prevent the belt slipping when a sudden heavy load was put upon it.

I cannot agree fully with Elmer Grant when he says we were overjoyed at the change from the single drive belt that drove all the machinery in the elevator to the rope drive. I've had experience with both and can assure you that for economy and efficiency the single vertical belt is far superior to the rope drive as I have found it. These drove a shaft for the legs and each leg had what was known as the Plamondon friction, which was no more than a paper friction that when in use came in contact with the head pulley and when leg was not in use was thrown out. Their upkeep was nil. Of course where you have motor drives it is a different proposition.

And have you been seeing the street pavements that have been blowing up lately? If you remember I stated at one of the Society's meetings that the friction caused by the expansion of large masses of concrete could have caused some of the fires and explosions we were having in our elevators during that time.

I see by the papers that residents in the California Imperial Valley are turning to "submarine houses" for relief from the heat. I was going to put that in at the Northwestern when Armour had it, even went so far as to have the fans on the premises. My idea was to run lengths of $\frac{3}{4}$ -inch pipe the entire length and breadth of the flat portions of the building and put ordinary lawn sprinklers every 100 square feet or so and have the fans on the bin floor directly under the roof. That would have been of the greatest help in keeping that

large amount of grain in condition and it would have been inexpensive, as the entire cost for material and labor was but \$1,000 and there always was a surplus of power there.

W. E. COUFIELD

SOME CLASS

The National Association of British and Irish Millers classify wheats based on strength of bread, or loaf volume, as follows:

#1 U. S. A. Northern Spring	100 points
#1 Northern Manitoba	100 points
Russian Ghikra	85 points
Argentine	80 points
Choice White Kurachi	75 points
Australian	70 points
Native English	65 points

LIFE'S LIKE THAT

(From Peoria Transcript.)



"This oughta be funny . . . here's the ball!!"

Compliments of

WEEVIL-CIDE COMPANY

1406 W. 9th St., Kansas City, Mo.

INSECTICIDES MANUFACTURED
ESPECIALLY FOR THE GRAIN TRADE

Cracked Kernels

Wife—Goodness, George, this isn't our baby. This is the wrong carriage.
Hubby—Shut up! This is a better carriage.

And Trillions of Foreign Kernels To Usher 'Round

Secretary Wallace reports that a bad drought is developing in the wheat country. This is also the year for the reappearance of the seventeen-year locusts and the four-year keynoters.—New Yorker.

People who push themselves don't have to depend on friends with a pull.

Tonic for Insomnia

What's the use of spending sleepless nights worrying about your plant if you don't do something about it?

Read our advertisements intelligently!

Housekeeping Note

"Hello; is that the police station?"

"Yes what's the matter?"

"I just wanted to tell you that you need not search for my husband. I found him myself. He had forgotten to take off his cloak and I hung him up in the closet by mistake."

The men who strive are the men who arrive just where we all wish to be!

More Coming

Old Maid—Stop that sailor. He tried to kiss me.

Cop—Never mind. There'll be another one along in a minute.

THE DIPLOMAT

Mrs. Bintank—I see Mrs. Crib has a new hat.

Supt. Bintank—If she had your looks, my dear, she wouldn't have to spend all that money for scenery!

Like the Association

A grain does not fill a sack but it helps its fellow.—Old Proverb.

HOOT MON!

A bulletin from Canada relays the news of a Scotchman who became a divorce lawyer so that he could get wives free.

Every living creature is supposed to have some purpose in Nature's plan, but the road hog must have been a zoological error.

HOW TO GET THE FULL BENEFIT



(Apologies to Chicago Daily News)

Like Safety Work

There's no bull about the present Spanish fight.

Honeymoon-End

A salesman, taking his bride South on their honeymoon, visited a hotel where they boasted of their fine honey.

"George," he asked the colored waiter, "Where's my honey?"

"Ah don't know, boss," replied George, eyeing the lady cautiously. "She don't work here no mo'."

It seems the Middle West is stealing Boston's famed "bean" reputation—SOY THERE!

FLASH!

The latest report from the drouth stricken area was terse and to the point. It read as follows: The trees are looking for dogs.

On The List

Suitor—I would like to marry your daughter.

Employment Office Manager—Well, sir, you can leave your name and address, and if nothing better turns up we can notify you.

You can't sit back . . . and take it!

New Playhouse for the Darlings

Old freight cars are being sold to farmers with the "ever-normal granary" complex for grain storage on farms, according to an item in the "Weevilcide Bugle." After a while the good ol' box-cars will roll around just as though they were back on the main-line, and their inhabitants may get so bold as to frighten the farm animals.

EXCLUSIVE

Jealous Tramp (watching holiday crowds)—"I hates holidays."

Second Ditto—"Same here. Makes yer feel common when nobody ain't workin'."

Baby On Profitable Basis

The couple took their baby to the movies, where they were warned that unless the child was quiet, they would have to take their money and leave. Half way through the feature film the wife turned to her husband and whispered:

Wife—Vell, vot do you tink of it?

Hubby—Rotten.

Wife—Yes. Pinch the baby.

"Being everlastingly on the job beats carrying a rabbit's foot for luck."



Progress!

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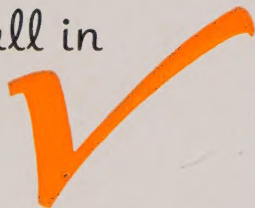
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